

RZ Ecosystem Partner Solution Macronix Non-Volatile Memory Solutions



Solution Summary

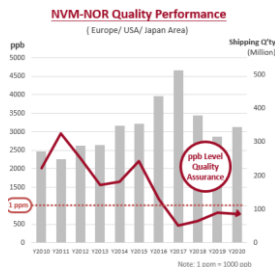
Macronix delivers high quality, innovative and performance driven products, ideal for diverse applications from computing, consumer, networking, and industrial, to mobile, embedded, automotive, and Internet of Things (IoT). The following distinctive Macronix products are the best Memory products for developing Linux products (OTA, Security, etc.) in the [RZ/G series](#).

Features/Benefits

- OctaBus Memory
 - The new-generation Macronix OctaBus Memory is a portfolio of extreme speed memory products built on Serial Peripheral Interface (SPI) and command protocol, providing extendable I/O capability
 - The LW/UW series provide simultaneous Read-While-Write capability that allows read access from one memory bank while writing to another memory bank.
 - An ideal solution for Over-The-Air (OTA) update applications.
- LybraFlash™: The Optimum Solution for Gigabit Flash Memory
 - An embedded ECC engine to deliver high integrity data.
 - A great fit for code storage use, accomplished by high performance continuous read operation, fast write (program/erase) performance, strong data integrity, and respectable endurance.
- ArmorFlash™ Secure Memory Flash
 - MX75 ArmorFlash™ product family offers secure technologies like a Physical Unclonable Function (PUF) that makes use of a semiconductor's biometrics, derived from fabrication used for encoding or identification.
 - PUF, this highly unique fingerprint cannot be predicted, duplicated, or cloned and so provides a reliable unique ID with very high levels of entropy. Strong relationship with chipset vendors.
 - An ideal security solution for a wide range of identification, authentication and encryption requirements for IoT, computing, industrial, healthcare, wearables, smart home, and smart cities.
- e•MMC™ Memory
 - Macronix e•MMC™ memory to meet the needs of high-capacity storage and high reliability applications. It can help designers increase system availability and reduce maintenance efforts.

Diagrams/Graphics

Quality Certifications: AEC-Q10 compliant, IATF 16949, ISO 26262; ppb Level Quality Assurance



Product Longevity Program

Reliable and dependable long term supply
Macronix owns 2 wafer fabrication facilities with full control of manufacturing assuring the reliability.
MPLP (Macronix Product Longevity Program) provides product up to 10 years support for customers requiring long term lifecycle systems.



Target Markets and Applications

- Industrial
- Medical
- Communication
- Networking
- Consumer
- Aerospace
- Smart Living
- IoT



MACRONIX
INTERNATIONAL CO., LTD.



Innovating for Today and Tomorrow

Macronix was established in 1989 in the Science Park, Hsinchu, Taiwan. Since its inception, Macronix is dedicated to developing top-notch home-grown technologies and improving its manufacturing capability to offer its customers high quality products and services. Macronix, a leading integrated device manufacturer in the Non-Volatile Memory (NVM) market, provides a full range of NOR Flash, NAND Flash, and ROM products.

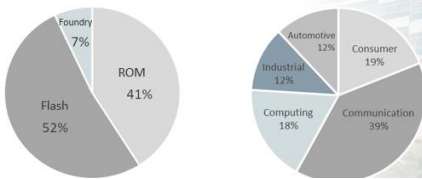
Macronix owns one 12-inch wafer fab (Fab 5) and one 8-inch wafer fab (Fab 2). Macronix designs and fabricates its nonvolatile memory products in Fab 5 & Fab 2.

Looking ahead, Macronix will continue its research efforts in advanced technology development focusing on nonvolatile memory products. We will continue to enhance our technologies, quality and service and dedicate ourselves to obtaining a superior industry position, higher sales growth, steady business operations, in turn increasing Taiwan's global competitiveness.

Macronix at a Glance

1989 Founded in Taiwan
8,500+ Patents Granted (~Sep., 2021)
US\$ 1,345 Million 2020 Revenue
4,000+ (20% in R&D) Employees Worldwide
2 in-house Fabs Complete In-house Wafer Manufacturing
 200mm Fab: NOR ~50K
 300mm Fab: NOR/NAND ~50K Design Capacity (wafer/month)

2020 Revenue by Products | 2020 Flash Revenue by Applications



Macronix Flash Process Technology

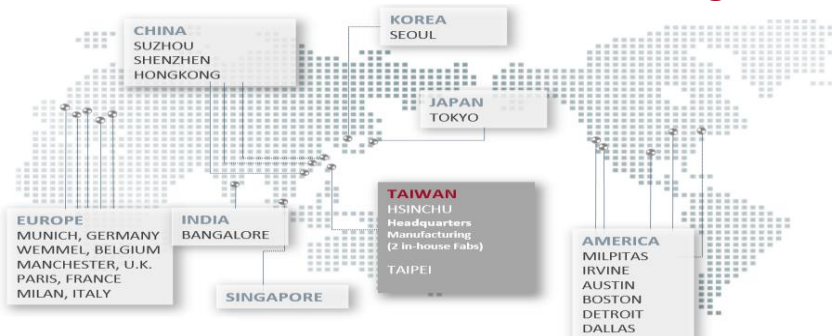
NOR

130nm 110nm 75nm 68nm **55nm** **45nm**
-2021

NAND

75nm 36nm
SLC SLC
19nm **3D Gen.1** **3D Gen.2**
SLC&MLC TLC - 2020 TLC - 2022

Worldwide Locations and Manufacturing



✉ Ask Engineering



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